

WHAT IS CLAIMED IS:

1. A secondary battery comprising:

a first cell comprising a flat sheet-shaped first electrode of one polarity and a flat sheet-shaped second electrode of another polarity layered on top of one another with a separator disposed therebetween;

a second cell aligned in the same direction as, and adjacent to, the first cell, the second cell comprising a flat sheet-shaped first electrode of one polarity and a flat sheet-shaped second electrode of another polarity layered on top of one another with a separator disposed therebetween;

wherein an edge portion of the first electrode in the first cell has a different polarity than an edge portion of the second electrode in the second cell, and is overlapped and joined with the edge portion of the second electrode in the second cell.

2. The secondary battery according to claim 1, wherein the shape of the first electrode and the shape of the second electrode are the same, and the first electrode and the second electrode are layered offset from one another in a direction in which the first cell and second cell are aligned.

3. The secondary battery according to claim 1, wherein the layered electrodes are wound.

4. The secondary battery according to claim 3, wherein the secondary battery further comprises a shaft-shaped member and the layered electrodes are wound around the shaft-shaped member.

5. The secondary battery according to claim 4, wherein the shaft-shaped member is hollow.

6. The secondary battery according to claim 1, wherein the edge portion of the first electrode in the first cell and the edge portion of the second electrode in the second cell are joined by crimping.

7. The secondary battery according to claim 1, wherein the secondary battery further comprises a ring member, and the edge portion of the first electrode in the first cell and the

edge portion of the second electrode in the second cell are joined by pressure from the ring member.

8. The secondary battery according to claim 1, wherein the edge portion of the first
5 electrode in the first cell and the edge portion of the second electrode in the second cell are joined by welding.

9. The secondary battery according to claim 1, wherein the secondary battery further
10 comprises a case which encloses the first and second cells, and the edge portion of the first electrode in the first cell and the edge portion of the second electrode in the second cell are joined by being pressed together by pressure applied to the case from the outside.

10. A manufacturing system for manufacturing a secondary battery, comprising:
a forming apparatus that forms a first cell comprising a flat sheet-shaped first
15 electrode of one polarity and a flat sheet-shaped second electrode of another polarity layered on top of one another with a separator disposed therebetween; and
a moving apparatus that moves the first cell with respect to the forming apparatus so that the forming apparatus can form a second cell comprising a flat sheet-shaped first
20 electrode of one polarity and a flat sheet-shaped second electrode of another polarity layered on top of one another with a separator disposed therebetween, such that an edge portion of the second electrode in the second cell, which has a different polarity than an edge portion of the first electrode in the first cell, is overlapped with the edge portion of the first electrode in the first cell, and the secondary battery has a shape in which the first cell and the second cell are aligned in one direction.

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11. The manufacturing system according to claim 10, wherein the shape of the first
electrode and the shape of the second electrode are the same, and the forming apparatus forms the first cell and the second cell by layering the first electrode and the second
electrode on top of one another and offset from one another in the one direction.

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12. The manufacturing system according to claim 10, wherein the forming apparatus forms the first cell and the second cell by winding the layered electrodes.

13. The manufacturing system according to claim 12, wherein the secondary battery is

a battery which includes a shaft-shaped member and the forming apparatus forms the first cell and the second cell by winding the layered electrodes around the shaft-shaped member.

14. The manufacturing system according to claim 10, wherein the manufacturing
5 system further comprises a joining apparatus for joining the edge portion of the first electrode in the first cell and the edge portion of the second electrode in the second cell at a portion where those two edge portions overlap.

15. The manufacturing system according to claim 14, wherein the secondary battery is
10 a battery in which the first and second cells is housed in a case, and the joining apparatus joins the edge portion of the first electrode in the first cell and the edge portion of the second electrode in the second cell at a portion where those two edge portions overlap by pressing on the case from the outside.

16. A manufacturing method of a secondary battery, comprising:
a first forming step for forming a first cell comprising a flat sheet-shaped first
electrode of one polarity and a flat sheet-shaped second electrode of another polarity
layered on top of one another with a separator disposed therebetween; and
a second forming step for forming a second cell comprising a flat sheet-shaped
20 first electrode of one polarity and a flat sheet-shaped second electrode of another polarity
layered on top of one another with a separator disposed therebetween, such that an edge
portion of the second electrode in the second cell, which has a different polarity than an
edge portion of the first electrode in the first cell, is overlapped with the edge portion of the
first electrode in the first cell, and the secondary battery has a shape in which the first cell
25 and the second cell are aligned in one direction.

17. The manufacturing method according to claim 16, wherein the first forming step
forms a plurality of the first cells at predetermined intervals in the one direction.

18. The manufacturing method according to claim 16, wherein the shape of the first
30 electrode and the shape of the second electrode are the same, and in the first forming step
and the second forming step, the first cell and the second cell are formed by layering the
first electrode and the second electrode on top of one another and offset from one another
in the one direction.

19. The manufacturing method according to claim 16, wherein in the first forming step and the second forming step, the first cell and the second cell are formed by winding the layered electrodes.

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20. The manufacturing method according to claim 19, wherein the secondary battery is a battery which includes a shaft-shaped member, and the first cell and the second cell are formed by winding the layered electrodes around the shaft-shaped member.

10 21. The manufacturing method according to claim 16, further comprising a joining step for joining the edge portion of the first electrode in the first cell and the edge portion of the second electrode in the second cell at a portion where those two edge portions overlap.

15 22. The manufacturing method according to claim 21, wherein the secondary battery is a battery in which the first and second cells is housed in a case, and in the joining step, the edge portion of the first electrode in the first cell and the edge portion of the second electrode in the second cell at a portion where those two edge portions overlap are joined by pressing on the case from the outside.

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23. A secondary battery, comprising:

a first cell formed by layering a flat sheet-shaped positive electrode and a flat sheet-shaped negative electrode on top of one another with a separator disposed therebetween; and

25 a second cell which is aligned in the same direction as, and adjacent to, the first cell and is formed by layering a flat sheet-shaped positive electrode and a flat sheet-shaped negative electrode on top of one another with a separator disposed therebetween; wherein

30 an edge portion of the positive electrode in the first cell is overlapped and joined with an edge portion of the negative electrode in the second cell.

24. A secondary battery, comprising:

a first cell formed by layering a flat sheet-shaped positive electrode and a flat sheet-shaped negative electrode on top of one another with a separator disposed

therebetween; and

a second cell which is aligned in the same direction as, and adjacent to, the first cell and is formed by layering a flat sheet-shaped positive electrode and a flat sheet-shaped negative electrode on top of one another with a separator disposed therebetween;

5 wherein

an edge portion of the first cell is overlapped and joined with an edge portion of the second cell; and

the edge portion of the first cell is different from the polarity of the edge portion of the second cell.